Better Scientific Software

https://bssw.io

So your code will see the future.

2019 BSSw Fellows Q&A Session

September 21, 2018

better scientific software

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Better Scientific Software (BSSw)

Scientific software has emerged as an essential discipline in its own right. Because computational models, computer architectures, and scientific software projects have become extremely complex, the Computational Science & Engineering (CSE) community now has a unique opportunity—and an implicit mandate—to address pressing challenges in scientific software productivity, quality, and sustainability.

GET ORIENTED   Communities Overview   Site Overview   Intro To CSE   Intro To HPC

https://bssw.io

Collaborative content development on general topics topics related to developer productivity and software sustainability for CSE

We want and *need* contributions from the community … Join us!

Dedicated to improving developer productivity and software sustainability for CSE

https://bssw.io

- **New community-based resource for scientific software improvement exchange**
- Clearinghouse to gather, discuss, and disseminate experiences, techniques, tools, and other resources to improve software productivity and sustainability for computational science and engineering (CSE)

Goals:

- Raise awareness of the importance of good software practices to scientific productivity and to the quality and reliability of computationally-based scientific results
- Raise awareness of the increasing challenges facing CSE software developers as high-end computing heads to extreme scales
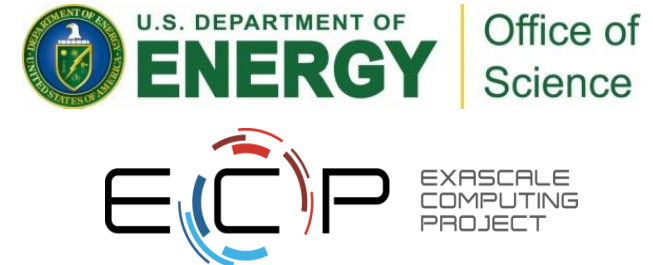
Site users can:

- **Find information** on scientific software topics
- **Propose to curate or create new content** based on their own experiences. The backend enables collaborative content development using standard GitHub tools and processes.

3

BSSw site history … And an invitation: Join us!

- **BSSw site launched at SC17**
  - **BOF on *Software Engineering and Reuse in Computational Science and Engineering***
    - https://betterscientificsoftware.github.io/swe-cse-bof/2017-11-sc17-bof

- **Seeking contributions from US and international CSE community**
  - Researchers, practitioners, and stakeholders from national laboratories, academic institutions, and industry … share your resources, experiences, etc.

- **Over time: Collaborate to build the site to a vibrant community resource**
  - Content and editorial processes provided by volunteers throughout the CSE community
  - We need your contributions!

Initiative of the IDEAS Software Productivity Project
- Support from DOE Office of Advanced Scientific Computing Research, DOE Exascale Computing Project
- Thank you to DOE program mangers Thomas Ndousse-Fetter, Paul Bayer, and David Lesmes for encouragement and support

BSSw Fellowship Overview

Main goal:

- Foster and promote practices, processes, and tools to improve developer productivity and software sustainability of scientific codes.

- Build a growing community of BSSw Fellowship alums who can serve as leaders, mentors, and consultants to increase the visibility of those involved in scientific software production and sustainability in the pursuit of scientific discovery.

https://bssw.io/fellowship

BSSw Fellowship Overview

Fellows selection process:

- Selected annually based on application process that includes the proposal of a funded activity that promotes better scientific software.

- At least three Fellows per year and honorable mentions as appropriate.

- Each 2019 BSSw Fellow will receive up to $25,000 (plus coverage of usual and customary overheads) for an activity that promotes better scientific software.

- Activities can include organizing a workshop, preparing a tutorial, or creating content to engage the scientific software community.

- Fellows receive funds through their respective institution for one year.

BSSw Fellowship 2019

Who should apply:

- Must be affiliated with U.S.-based institution able to receive funding from U.S. Department of Energy. Typically includes U.S. government labs, U.S. universities, and U.S.-based corporations.

- Passionate about scientific software.

- Interested in contributing powerful ideas, tools, methodologies, and more that improve the quality of scientific software.

- Able to use the fellowship to broadly benefit the scientific software community.

- Willing to participate as an alum in subsequent years to guide selection of future fellows and promote better scientific software in their community.

Applications due Oct 16, 2018, 11:59 pm PT.

BSSw Fellowship Application Form

Question Summary

Experience:
- Describe your work relevant to scientific software (1000 - 1500 characters).
- Describe your background and experience relevant to being a BSSw Fellow (1000 - 1500 characters).

Proposed work and impact:
- What would you do as a BSSw Fellow? (1000 - 1500 characters).
- What impact do you foresee from your efforts? (1000 - 1500 characters).

BSSw 2019 Fellows Timeline

- Tuesday, Sept 4, 2018: Fellowship application process opens.

- Friday, Sept 21, 1:00-2:00 pm EDT: Fellowship webinar, Q&A. **Subscribe** to our mail list to be notified about details.

- Tuesday, Oct 16, 2018: Application deadline, before midnight, PDT. This is a firm deadline that will not be extended.

- Jan 8, 2019 - March 31, 2020: Period of performance for 2019 BSSw Fellows.

- Jan 15-17, 2019: Fellows announced at DOE ECP Annual Meeting in Houston, TX.

This information and further details (including FAQ) are available at https://bssw.io/fellowship

Inaugural Fellows and Topics

- **Jeffrey Carver**, U of Alabama: *Contemporary peer code review in scientific software development.*

- **Ivo Jimenez**, UC Santa Cruz: *Generation of computational experimentation pipelines that are easy to re-execute and validate.*

- **Dan Katz**, U of Illinois: *Techniques for making scientific software more sustainable by providing credit to its developers via software citation.*

- **Andrew Lumsdaine**, U of Washington, PNNL: *Practices for high-performance and high-quality scientific software in modern C++.*

See **https://bssw.io/resources/bssw-fellows-2018-projects-and-perspectives** for further details.

Questions?